SHEBALIN, N.V.

Estimation of focal depth from macroseismic data with an account of the effect of the low velocity layer. Trudy Inst.fiz.zem. no.5:100-113 '59. (MIRA 13:6)
(Seismometry)

SOV/49-59-8-12/27

AUTHORS: Solov'yev, S. L. and Shebalin, N. V.

TITLE: Tsumanis and Intensity of Earthquakes in the Kuril-Kamchatka Region

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 8, pp 1195-1198 (USSR)

ABSTRACT: Data of earthquakes tabulated on p 1195 were analysed. The table gives the following:
Column 1 - intensity M,
" 2 - number of earthquakes,
" 3-6 - their number in tsumani zones (South Kuril, Middle Kuril, North, etc.)
" 7-10 - number of tsumani earthquakes.
The relationship between the height of tsumanis and the intensity of earthquakes is given in Fig 1. An attempt to determine the formation of tsumanis is shown in the nomograph illustrated in Fig 2, where data from the Station Petropavlovsk were used (lower area signifies no tsumanis, the upper indicates possibilities of tsumanis). A similar nomogram for the Station Kuril'sk is shown in Fig 3. These nomographs should be treated only as a general prediction of tsumanis.

Card 1/2

SOV/49-59-8-12/27

Tunamis and Intensity of Earthquakes in the Kuril-Kamchatka Region

There are 3 figures, 1 table and 9 references, 6 of which are Soviet and 3 English.

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli (Institute of Physics of the Earth, Ac.Sc., USSR)

SUBMITTED: July 25, 1958

Card 2/2

S/169/61/000/011/009/[illegible]
D228/D304

AUTHOR: Shebalin, N.V.

TITLE: Determining the focal depth of an earthquake from its magnitude M and macroseismic data (in the instance of Caucasian earthquakes)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1961, 15-16, abstract 11A149 (Geopizikis institutis shromebi Sakartvelos SSR Metsniyerebata Akademia, Tr. In-ta geofiz. AN GruzSSR, 18, 1959 (1960), 159-169)

TEXT: It is suggested that correlation between the magnitude M, the force at the epicenter I_o, and h should be used to determine the depth h of an earthquake focus. For foci above the layer of reduced velocity $I_o = 1.5\ M - 3.5\ \log h + 3.0$. For foci in or deeper than the layer with a reduced velocity $I_o = 1.5\ M - 3.4\ \log h - 5.4$ M is determined from the amplitudes of surface waves without introducing a correction for the depth of the focus. A nomogram for de

Card 1/2

Determining the focal depth of an ...

termining h from M and I_o and a pallet for determining h from macroseismic data are given. When determining M with a precision of ± ¼ and I_o with one of ± ½, it is impossible to err in the determination of h by more than two-fold if it can be established on the grounds of macroseismic data that the studied earthquake [illegible] or normal. The depths of 57 of the strongest earthquakes in the Caucasus for 1911 - 1957 were determined. They equalled from 2 [illegible] 110 - 160 km. Deep earthquakes occurred in the eastern part of the Caucasus and in the Caspian Sea. The upper boundary of the layer with a reduced velocity lies at a depth of 40 - 60 km in the Caucasus. [Abstractor's note: Complete translation].

Card 2/2

87971

3,9300

S/049/60/000/010/007/014
E133/E414

AUTHORS: Moskvina, A.G. and Shebalin, N.V.

TITLE: The Use of a Seismograph With Two Galvanometers for Tracing Earthquakes at Two Levels of Sensitivity

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No.10, pp.1474-1478 + 1 plate

TEXT: Several seismic stations have seismographs which alter their sensitivity at a given amplitude so that oscillations do not go off-scale (Ref.1 to 4). There are two main drawbacks to this: (1) mechanical failure is possible in the switching device; (2) distortion of the trace always occurs during switching. Since alterations in sensitivity usually take place several times in the course of a single trace, much wastage therefore occurs. It is suggested that, instead, two channels should be used, one with a magnification ten times smaller than the other. The present authors give a typical circuit including an additional galvanometer (Fig.3). They also give the phase and frequency

Card 1/ 2

87971
S/049/60/000/010/007/014
E133/E414

The Use of a Seismograph With Two Galvanometers for Tracing Earthquakes at Two Levels of Sensitivity

characteristics of a seismograph with two galvanometers. A table is given of the calculated instrumental constants for the two channels. The circuit considered in this article actually has a second galvanometer which switches in automatically for seismograph amplitudes greater than five millimetres. Both the galvanometers record on the same strip. There are 4 figures, 1 table and 5 Soviet references.

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli (Academy of Sciences USSR Institute of Physics of the Earth)

SUBMITTED: February 25, 1960

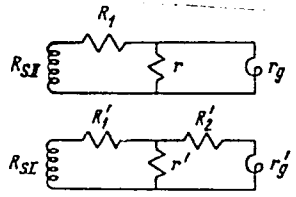


Fig.3.

Card 2/2

SHEBALIN, N.V.

Determining focal depths of earthquakes by their magnitude (M) and macroseismic data. Trudy Inst. geofiz. AN Grus. AN Gruz. SSR 18: 159-169 '60. (MIRA 13:10)

(Seismometry)

S/761/61/000/000/001/001

AUTHOR: Shebalin, N. V.

TITLE: Earthquakes in the SSSR. Chap. 5. Intensity, magnitude, and depth of earthquake focus

SOURCE: Akademiya nauk SSSR. Sovet po seysmologii. Zemletryaseniya v SSSR. Moscow, 1961. 126 - 138.

TEXT: The connection between the intensity of an earthquake in the epicenter, the size of the earthquake, the depth of its focus, and the depth of the upper boundary of the asthenosphere are analyzed, and a set of equations is derived allowing one of these quantities (intensity, magnitude, depth of focus) to be determined from two others, and providing an estimate of the depth of the top of the asthenosphere from these quantities. Two empirical equations are first obtained to relate the intensity (I), magnitude (M), and depth of focus (h) for more than 250 earthquakes for which these quantities have been previously determined independently from various sources. One equation applies above a certain depth H_a, 80 km on the average, and the other belwo it. If the earthquake focus is located below H_a, the relative amplitude of the surface waves produced by the quake is

Card 1/3

greatly reduced, so that H_a can be identified with the top of the asthenosphere. It remains constant in each region. A nomogram is presented for the relation between the above four quantities. This nomogram can be used, depending on the material available, to determine one of the following: 1) The intensity at the epicenter for known magnitude and depth of focus. 2) The depth of focus from the aggregate of avialable macroseismic data and the magnitude. 3) The depth of the top of the asthenosphere from the other data, with or without knowledge of the depth of focus. 4) Determine the magnitude from the aggregate of the macroseismic data. Each question is discussed in detail. The intensity is calculated for a series of earthquakes which occurred in recent years in difficultly accessible and unpopulated regions. The depth of focus is determined for some earthquakes in Turkmenia and for some strong earthquakes of Central Asia. It is concluded that the character of variation of the intensity with distance, together with the behavior of the surface waves as functions of the depth of focus, make it possible to clearly define the concept of "deep earthquake" as pertaining to one whose focus is in the asthenosphere or deeper. Comparison of the instrumental and macroseismic data has disclosed a new zone of existence of

deep earthquakes in the eastern Caucasus and in the western part of the Caspian sea. In addition, data are obtained on the depth of the asthenosphere for six regions of the globe, and the possibility of estimating the magnitude of earthquakes from macroseismic data is shown. There are 4 figures and 8 tables.

25464

Z/023/61/000/003/002/005
D006/D102

3,9300

AUTHORS: Moskvina, A. G., and Shebalin, N. V.

TITLE: A study of seismic noise and calculation of the optimum seismograph constants

PERIODICAL: Studia geophysica et geodaetica, no. 3, 1961, 227-230

TEXT: The seismic-noise level in the period range from 0.1 to 5-7 sec was measured at more than 30 seismographic stations in the USSR to find a suitable method of determining the optimum seismograph constants. The measurements were made with portable pendulum seismographs consisting of a small pendulum (WEGIK system, reduced length l_o=0.1 m; inertial moment $K_1=10^{-2}$ kg·m^2; period variable from 0.5 to 4 sec; damping variable up to critical) and a POB-14, or a modified OSB-1 oscillograph (the latter designed by Borisevich) with a GB-III galvanometer (period 0.05 or 0.2 sec, overdamped). The magnification of this system was about 10,000 - 20,000, stable for periods up to 2-3 sec. The seismic-noise curves obtained are characterized by one or two maxima in the period range of 0.1 - 0.6 sec, one sharp minimum

Card 1/3

25464

Z/023/61/000/003/002/005
D006/D102

A study of seismic noise ...

in the period range of 0.6 - 2.0 sec, and one or two high maxima in the period range of 2 - 8 sec. Two maxima in the latter range were mostly found at stations located near a continental water body. The measurements have shown that the magnification curve having a maximum in the period range of about 1 sec is the one most suitable for high-sensitivity seismographs. It is, however, recommended that the optimum magnification curve be calculated for each specific case. In calculating this curve, the most essential factors are the dependence of the seismic-noise amplitude on the period, and the requirement that the curve amplitude on the tape must not exceed a definite limit. Paying due attention to these factors, a magnification curve can be selected which meets the requirements of the seismograph theory and yields the largest magnification on the tape for a given noise level. From five characteristic points on this curve (one on the left leg, one on the right leg, and three near the top), all the basic seismograph constants can be calculated with sufficient accuracy. There are 4 figures and 4 Soviet-bloc references. (Technical Editor: V. Tobyáš.

Card 2/3

Z/023/61/000/003/002/005
D006/D102

A study of seismic noise ...

ASSOCIATION: Institute of the Physics of the Earth, Acad. Sci., USSR, Moscow.

SUBMITTED: December 7, 1960

Card 3/3

S/619/61/000/019/015/019
D039/D112

AUTHORS: Kirnos, D.P.; Moskvina, A.G.; Shebalin, N.V.

TITLE: On the selection of rational methods of determining the constants of electrodynamic seismographs

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 91-112

TEXT: Rational methods of determining the constants T_1, T_2, D_1, D_2, σ^2 and $\overline{V}$ of the pendulum-galvanometer system of an electromagnetic seismograph are proposed. These constants entirely determine the form of the frequency and phase response and are accepted at Soviet seismic stations as the basic constants of seismographs. The period of free oscillations of the galvanometer T_2 can be determined by a seconds timer with an error of not more than 1%, when the oscillation periods of the frame of the galvanometer are short, it is recommended to determine T_2 by recording the free oscillations of the frame on photographic paper. The pendulum period T, was found for the СВК (SVK), ВСХ (VSKh) and ВЭГИК (VEGIK) seismographs. The measurement of

Card 1/4

S/619/61/000/019/015/019
D039/D112

On the selection ...

T_1 should be done at $\sigma^2 \leq 0.1$ and at $\vartheta \leq 10^{-3}$. Since direct visual determination of T_1 at $\vartheta \leq 10^{-3}$ is difficult, the motion of the pendulum must be measured by a galvanometer connected through a sufficiently high resistance ensuring very slight damping of the pendulum. In order to find the damping of the pendulum D_1, and that of the galvanometer D_2, the corresponding mechanical dampings D_{10} and D_{20} and the electrodynamic coefficient α_2 for the galvanometer and α_{11} and α_{12} for the pendulums must be known. The value D_{20} is found by recording the free oscillations of the frame of the galvanometer by means of a formula. The coefficient α_2 is determined by a conventional method proposed by B.B. Golitsyn (Ref.6: (Lektsii po seysmometrii) Izbr. trudy, [Lectures on seismometry selected works] 2. Izd-vo AN SSSR, 1960). The value D_2 is determined from the recording of the damped oscillations of the galvanometer shunted across a known resistor $R_{external}$. The determination of α_{11}, α_{12} and D_{10} requires three equations, i.e. three recordings with different external resistances. To make this method more convenient, only two recordings for each coil of the pendulum were made. Circuit diagrams for both recordings are given. The value D_1 is calculated by imparting a pulse to the pendulum and recording

Card 2/4

On the selection ...

its damped oscillations. The coupling factor σ^2 is calculated for two cases: (1) when two additional resistors are switched between the pendulum and galvanometer; (2) when $R_1 = R_2 = 0$ and $r = \infty$. The formulae for both cases are given. The magnification $\overline{V}$ is best determined by a calculation method requiring that the moment of inertia of the galvanometer K_2, the moment of inertia of the pendulum K_1 and the given length of the pendulum l_1 be known. The value K_2 is determined by a method described by V.T. Arkhangel'skiy (Ref. 3: Rukovodstvo po proizvodstvu i obrabotke nablyudeniy na seysmicheskikh stantsiyakh SSSR [Manual for Carrying out and Processing Observations at Seismic Stations of the USSR] Izd-vo AN SSSR, 1954). For determining K_1 and l_1 with an error not above 1%, a method of swinging the pendulum on special knife bearings is proposed. Formulae are also given for calculating the magnification curve of a seismograph. The maximum magnification V_m and the corresponding value of the period of oscillations T_m can be determined from this curve. It is concluded that the values l_1, K_1, T_1, T_2, D_{20} and α_2, the galvanometer current constant P_2, the air damping of the pendulum D_{10} and its electrodynamic coefficients α_{11} and α_{12} can be

Card 3/4

On the selection ...

found directly. The values l_1 and K_1 should be determined during manufacture of the pendulum and indicated on its rating plate. The values D_1, D_2, K_2, σ^2 and $\overline{V}$ are determined by means of calculations. The authors thank V.T. Arkhangel'skiy, Candidate of Physics and Mathematics, I.I. Popov, Director of the seysmicheskaya stantsiya Simferopol' (Simferopol' Seismic Station) and its scientific workers Z.I. Aronovich and S.K. Novak who participated in the experiments and the discussion of results. There are 5 figures, 5 tables and 9 Soviet-bloc references.

Card 4/4

33520
S/619/61/000/019/ 019/019
D039/D112

3.9300(1019, 1327)

AUTHOR: Shebalin, N.V.

TITLE: On the calculation of variations of the parameters of an electrodynamic seismograph

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 136-143

TEXT: The author describes a simplified graphoanalytical method for accurately solving two problems arising when calculating the coupling effect in electrodynamic seismographs: (1) finding the ensemble of eigenparameters of the pendulum-galvanometer system from the given partial periods and dampings of the pendulum and galvanometer and the varying coupling coefficient; (2) finding the ensemble of the values of the partial parameters of the pendulum and galvanometer, depending on the coupling coefficient, whereby the ensemble should be such that any combination of $T_1(i)$, $D_1(i)$, $T_2(i)$, $D_2(i)$, $\delta^2(i)$ from it would give the same eigenvalues of the system's parameters. The solution of these problems is reduced to a conversion of

Card 1/3

On the calculation ...

$D_2^{(0)}$ and the initial values of the coupling coefficient $\sigma^{(0)2}$ are given. Since the preparatory calculations and the process of solving both problems are identical (with the exception that different σ^2 are calculated), they should be solved together. The calculation system is well explained in the article and illustrated by a table containing an example of calculation carried out with an accuracy of 2-3 essential figures. Close agreement between the eigenparameters obtained by the various methods confirms the accuracy of the method presented. The author thanks V. Tobiash for enabling him to become acquainted with his work and for the valuable discussions. There is 1 table, 1 figure and 4 Soviet-bloc references.

Card 3/3

ARKHANGEL'SKIY, V.T.; KIRNOS, D.P.; MOSKVINA, A.G.; SOLOV'YEV, V.N.; FEDOSEYENKO, N.Ye.; FREMD, V.M.; SHEBALIN, N.V.; KIRNOS, D.P., doktor fiz.-mat. nauk, otv. red.; FREMD, V.M., red.izd-va; MAKOGONOVA, I.A., tekhn. red.; GOLUB', S., tekhn. red.

[Apparatus and observation methods at seismic stations of the U.S.S.R.] Apparatura i metodika nabliudenii na seismicheskikh stantsiiakh SSSR. [By] V.T.Arkhangel'skii i dr. Moskva, Izd-vo Akad. nauk SSSR, 1962. 166 p. (MIRA 15:4)

1. Akademiya nauk SSSR. Sovet po seysmologii. 2. Institut fiziki Zemli im. O.Yu.Shmidta Akademii nauk SSSR (for Arkhangel'skiy, Kirnos, Moskvina, Solov'yev, Fedoseyenko, Fremd, Shebalin). (Seismometry)

SHEBALIN N.V.

4

S/049/62/000/002/001/005
D210/D301

AUTHORS: Vaněk, J., Zátopek, A., Kárník, V., Kondorskaya, N.V., Riznichenko, Yu.V., Savarenskiy, Ye.F., Solov'yev, S.L. and Shebalin, N.V.

TITLE: Standardization of the magnitude scale

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofizicheskaya, no. 2, 1962, 153-158

TEXT: It is pointed out that various magnitude scales are used at the present time and that their main disadvantage is that they provide different magnitudes for a given earthquake. This is because in many cases the methods used to calculate the magnitude are not clearly defined and are inadequately described. A special conference of Soviet and Czechoslovak seismologists was convened in Prague on December 7-14, 1960, to deal with this problem. The aim of the present paper is to give an account of the main results of the Prague meeting and to suggest a standard method for determining

Card 1/4

Standardization of the magnitude scale

the earthquake magnitude. It is suggested that the scale should be based on the following standard formula:

$$M = \lg\left(\frac{A}{T}\right)_{max} + \sigma(\Delta)$$

where A is the maximum displacement amplitude, T is the corresponding period in seconds and $\sigma(\Delta)$ is a calibrating function which describes the variation of A/T with epicentric distance and is different for different types of waves. This formula has been discussed by B. Guterberg and C.F. Richter, and by the first three of the present authors in an earlier work. The calibration function is taken as an average of the Q function of Guterberg and Richter and the β function of J. Vaněk and J. Stelzner. A table is reproduced giving the smoothed average calibrating functions for PH, PV, LQH, and SH waves. In the case of surface waves, the calibrating function is taken to be of the form $\sigma(\Delta) = a \log \Delta + b$. It was found that the coefficients a and b for LH waves are on average equal to 1.66 and 3.3 respectively. This result holds for surface waves at epi-

S/040/62/000/002/001/005
D218/D301

Standardization of the magnitude scale

centric distances between 2 and 160°. Below 5°, Sg and L waves must be carefully distinguished. It is pointed out that the problem of defining a single value for M is not yet solved because different average values are obtained for M with different types of waves (M_{LH}, M_{PH}, M_{SH}, and so on). Nevertheless, it was decided not to combine these values as on the unified Gutenberg-Richter scale, but to use the method described above to accumulate a large amount of data and return to the problem of defining an average magnitude later. Beginning with 1962, all stations of Czechoslovakia and the USSR will use the method described in the present paper. There are 2 tables and 20 references: 11 Soviet-bloc and 9 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: J. Gutenberg and C.F. Richter. Ann. Geophys., 9, (1956); Report of the committee on magnitudes 12th General Assembly of the IUGG, Helsinki (1960); J. Vaněk and J. Stelzner, Ann. Geophys., 15 (1960); T. Nagamune and A Seki, Geophys. Mag., 28 (1958).

Card 3/4

4

S/049/62/000/002/001/005
Standardization of the magnitude scale D218/D301

ASSOCIATION: Geofizicheskiy institut Akademii nauk Ch SSR (Geophysics Institute of the Academy of Sciences, Czechoslovak SSR), Geofizicheskiy institut Karlova Universiteta, Praga (Geophysics Institute, Charles University, Prague) and Akademiya nauk SSR, Institut fiziki zemli (Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: October 31, 1961

Card 4/4

Z/023/62/000/001/002/004
D006/D102

AUTHORS: Kárník, V., Kondorskaya, N. V., Riznichenko, Yu.V., Savarensky, E.F., Solovyev, S.L., Shebalin, N. V., Vaněk, J., and Zátopek, A.

TITLE: Standardization of the earthquake magnitude scale

PERIODICAL: Studia geophysica et geodaetica, 6 no. 1, 1962, 41-47

TEXT: The paper presents a proposal for standard methods of magnitude determination of both shallow and deep earthquakes, and describes the practical application of the suggested magnitude scale as agreed upon by Soviet and Czechoslovak seismologists at meetings held in Prague on December 7-14, 1960 and in early 1961. The proposal is based on the following postulates: (1) General acceptance of a unified formula for the definition of the earthquake magnitude M

$$M = \log (A/T)_{max} + \sigma(\Delta) \qquad (1)$$

where A is the maximum ground amplitude of the wave considered (in microns), T is the corresponding period in seconds, and $\sigma(\Delta)$ is the calibrating function expressing the relation between A/T and the epicentral distance Δ, which is

Card 1/3

Standardization of the ....

different for different wave types) (2) General application of standard calibrating functions $f_i(\Delta)$ for body and surface waves as calculated according to the methods recommended by the proponents; (3) Determination of a representative M for each earthquake, to be represented by a simple arithmetic mean of magnitude, of a single wave type as established according to the proposed standard method at many stations. The determination should be done by a proposed international center. As of January 1, 1962, the magnitude, M will be determined according to the proposed standard method at all Czechoslovak and Soviet seismological stations. J. Vaněk and J. Stelzner are the personalities mentioned. There are 2 tables and 20 references: 5 Soviet-bloc and 12 non-Soviet-bloc. The references to the four most recent English-language publications read as follows: J. Vaněk, J. Stelzner, The problem of magnitude calibrating functions for body waves, Annali di Geofisica, 13, 1960, 39; K. Kiszricsány, On the determination of earthquake magnitudes, Annales Univers. Sci., Budapest, Sect. Geolog., 2, 1959, 39; T. Nagamune, A. Seki, Determination of earthquake magnitude from surface waves for Matsushiro seismological observatory and the relation between magnitude and energy. Geophys. Mag., 25, (1953), 303; Z. Droste, S. Gibowicz, Determination of the magnitude of distant earthquakes at the Silesian geophysical station in Raciborz. Acta geophys. polon.,

Card 2/3

Standardization of the ....

6, (1963), 222. (Technical editor: L. Ruprechtová)

ASSOCIATION: Geophysical Institute, Czechoslovak Academy of Sciences, Prague (V. Kárník, J. Vaněk); Institute of the Physics of the Earth, Academy of Sciences of the USSR, Moscow (N.V. Kondorskaya, Yu. V. Riznichenko, E. F. Savarensky, S. L. Solovyev, N. V. Shebalin); Institute of Geophysics, Charles University, Prague (A. Zátopek)

SUBMITTED: November 11, 1961

Card 3/3

SHEMALIN, Nikolay Vissarionovich, kand. fiz.-matem. nauk;
KADER, Ya.M., red.

[Planet Earth... what do we know about it] Planeta Zemlia... chto my znaem o nei. Moskva, Voenizdat, 1964. 116 p.
(MIRA 18:1)

CHEBALIN, N.V.

All-Union Conference on the Results of the IGY. Geofiz. biul. no.14:3-6 '64. (MIRA 18:4)

SHEBALIN, N.V.

Extensive program of exploring the earth; 13th General Assembly of IGGA in the U.S.A. Vest. AN SSSR 34 no. 1:52-58 Ja '64. (MIRA 17:5)

SHEBALIN, N.V.

International Symposium on the Results of IGY. Vest. AN SSSR 34 no. 1:81-82 Ja '64. (MIRA 17:5)

SHEBALIN, N.

In the name of the earth; artificial satellites tell about the structure of our planet. Av. i kosm. 46 no.4:20-23 Ap '64. (MIRA 17:3)

1. Uchenyy sekretar' Sovetskogo geofizicheskogo komiteta AN SSSR.

SHEBALIN, N.V., kand. fiziko-matem. nauk

Man and the Earth. Zem. i vsel. 1 no.1:33-38 Ja-F '65. (MIRA 18:7)

SHEBALIN, N.V., kand. fiziko-matem. nauk

Earthquakes and volcanoes. Zem. i vsel. 1 no.3:34-38 My-Je '65.
(MIRA 18:8)

SHEBALIN, N.V.

International Symposium on the Results of the IGY and the 13th General Assembly of the International Geodesic and Geophysical Union. Geofiz. biul. no.15:68-78 '65. (MIRA 18:11)

ZHALKOVSKIY, N.D.; TSIBUL'CHIK, G.M.; SHEBALIN, N.V.

The earthquake of February 15, 1965 at Kamen'-na Obi. Dokl. AN SSSR 165 no.2:327-328 N '65. (MIRA 18:11)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR i Institut fiziki Zemli im. O.Yu.Shmidta AN SSSR. Submitted March 24, 1965.

SHEBALIN, N.V., kand.fiz.-matem.nauk

Seismology and earthquakeproof construction; UNESCO conference in Tiflis. Vest. AN SSSR 35 no.12:59-61 D '65.
(MIRA 19:1)

L 39160-66 EWT(1) GW

ACC NR: AP6003340 SOURCE CODE: UR/0387/66/000/001/0107/0111

AUTHOR: Aronovich, Z. I.; Shebalin, N. V. 28 B

ORG: none

TITLE: USSR seismic station instrumentation for recording strong earthquakes

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 1, 1966, 107-111

TOPIC TAGS: earthquake, seismologic instrument, seismologic station

ABSTRACT: Recommendations of a conference of delegates from various Soviet academic and scientific organizations concerning the registration of strong earthquakes at relatively short distances from their epicenters are presented. These recommendations are: 1) the introduction of a standard system of seismic observations; 2) the necessity, for all stations of the standard net to record earthquakes taking place at distances 15-1000 km and of magnitudes 4 to maximum, and to cover the whole vibration spectrum; 3) the basis for the choice of the optimal apparatus should be its capacity for recording earthquakes taking place not less than once in a hundred years; 4) the choice of apparatus for any seismic station should be based on its availability, dependability, and its capacity to record maximum amplitudes. The conference also recommended the development of a long-period seismograph with a magnitude range of 0.1 to 1000 and of an instrument to record medium-intensity earthquakes, i.e., 4 to 6 magnitudes. Three tables give a detailed description of seismic devices, standard

Card 1/2 UDC: 550.340.8

L 17635-65 ARG/EEO-2/EWG(j)/EWT(d)/FBD/FSF(h)/FSS-2/EWG(r)/EWT(l)/FBO/EWP(m)/
FS(v)-3/EEC(k)-2/EWG(s)-2/FCS/EWG(v)/EWP(c)/EPR/EWG(a)/EWP(h)/EWG(c)/FCS(k)/EWA(d)/
Pn-4/Po-4/Pd-1/Pe-5/Pq-4/Pac-4/Ps-4/Pae-2/Pi-4/Pw-4 AEDC(a)/AFMDC/BSD/SSD/AFWL/
ACCESSION NR: AP5000616 AEDC(b)/AFETR/AFTC(a)/APGC(f)/ S/0029/64/000/011/0021/0021
AFTC(p)/AFTC(b)/ESD(dp)/ESD(si)/ESD(t)/Pb-4 JKT/TT/GW/DD/WW
AUTHOR: Shebalin, O. (Candidate of physicomathematical sciences)

TITLE: Scientific laboratory in space

SOURCE: Tekhnika - molodezhi, no. 11, 1964, 21

TOPIC TAGS: spacecraft, orbital spacecraft, multipassenger spacecraft, space rocket, booster rocket

ABSTRACT: During their 24-hour space flight, the three-man crew of the Voskhod space vechicle carried out a highly diversified research program. Their work was primarily devoted to experiments related to the advancement of spaceflight techniques and safety. The spacecraft commander, Col. V. M. Komarov, pilot and engineer, was well versed in orientation techniques and in spacecraft piloting. Scientist K. P. Feoktistov, Candidate of Technical Sciences, was previously engaged in research on the stability of movement and orientation methods and systems. Physician B. B. Yegorov studied space medicine and specialized in the reactions of man's vestibular apparatus in space. The Voskhod space vehicle represents a qualitatively new stage in space technology. The new type of rocket, which placed the multipassenger Voskhod into orbit, is not merely a larger model of a previously successful design.

Card 1/2

L 17635-65
ACCESSION NR: AP5000616

SUBMITTED: 00 ENCL: 00 SUB CODE: SV

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3151

Card 2/2

SHEPALIN, C. D.

Hydrology

Use of sounding devices for measuring floods and waves. Met. i gidrol. no. 6, 1947.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

AUTHOR: Shebalin, O. D. 20-4-18/51

TITLE: Note on the Turbulent Viscosity Caused by Wave Motion in a Shallow Sea (Turbulentnaya vyazkost' v melkovodnom more obuslovlennaya volneniyem).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 591-593 (USSR).

ABSTRACT: As it is well known, the wave motion is damped with increasing depth and for this reason, a velocity gradient exists in a vertical direction. The pulsation of velocity occuring in this case leads to vagrant vortexes passing from one layer to another and thereby to a turbulent exchange. S. V. Dobroklonskiy (reference 1) determined the coefficient of the turbulent exchange. In a shallow sea there occur vortexes in the case of wave motion, the dimensions of which are of the same order of magnitude than the depth, which prevents the application of the theory of locally isotropic turbulence. Therefore the author employs the relations of the semi-empiric theory of turbulence, but he starts out from the equations of wave theory in the case of a finite depth of the liquid, as distinct from Dobroklonskiy. On this occasion the paths, which the particles follow in the wave, are considered to be elliptic and not circular. These equations are then transformed by the intro-

Card 1/3

Note on the Turbulent Viscosity Caused by Wave Motion in a Shallow Sea. 2c-4-18/51

PRESENTED: April 3o, 1957, by V. V. Shuleykin, Academician.

SUBMITTED: April 26, 1957.

AVAILABLE: Library of Congress.

Card 3/3

BARSUKOV, Nikolay Aleksandrovich; PROBATOV, Aleksandr Nikolayevich; SHKBALIN, Oleg Dmitriyevich; GRINSHTEYN, I., red.; NIKOLAYEVA, T., tekhn.red.

[The Baltic Sea; a geographical essay] Baltiiskoe more; geograficheskii ocherk. Kaliningrad, Kaliningradskoe knizhnoe izd-vo, 1959. 92 p. (MIRA 12:8)
(Baltic Sea)

SOBOLEV, K.A.(deceased); FRIDLYAND, I.G.; SHEBALIN, O.D.

Organization of scientific prospective fishery surveys in the Atlantic Ocean. Trudy sov. Ikht. kom. no.10:243-244 '60. (MIRA 13:10)

1. Baltiyskiy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii-(BaltNIRO).
(Atlantic Ocean--Fisheries--Research)

ARKHANGEL'SKIY, Mikhail Mikhaylovich; SHEBALIN, Oleg Dmitriyevich; KROSHKIN, M.G., nauchnyy red.; FAYNBOYM, I.B., red.; ATROSHCHENKO, L.Ye., tekhn. red.

[Mysteries of the earth are revealed in space] Tainy Zemli raskryvaiutsia v kosmose. Moskva, Izd-vo "Znanie," 1963. 45 p. (Novoe v zhizni, nauke, tekhnike. IX Seriia: Fizika i khimiia, no.11) (MIRA 16:7)
(Geodetic satellites) (Meteorological satellites)
(Astronautics in navigation)

SHEBALIN, S.F.

The 30th anniversary of the discovery of neutrons. Priroda 51 no.10:83-84 O '62. (MIRA 15:10)

1. Moskovskiy geologorazvedochnyy institut im. Sergo Ordzhonikidze.
(Neutrons)

SHEBALIN, Ya.

Device for the definition of geographical coordinates. Geog. v shkole 21 no.5:70-71 S-O '58. (MIRA 11:10)

1. Shkola No.490, Moskva.
(Coordinates) (Audio-visual aids)

SHEBALIN, Ya.P.

Sighting ruler for visual surveying. Izobr. v SSSR 2 no.6:14 Je '57.
(Surveying--Instruments) (MLRA 10:8)

SHEBALIN, Ya.P.

Sighting ruler for field sketching. Geog. v shkole 20 no.3:52 My-Je '57. (MLRA 10:6)

(Surveying--Instruments)

SHEBALIN, Ya.P.

School surveying compass. Geog. v shkole 25 no.2:55-56 Mr-Ap '62. (MIRA 15:2)

1. 3-ya shkola Moskvy.
(Surveyor's compass)

AFRAKSINA-SVETLOLOBOVA, Ye.I.; SHEBALIN, Ya.P.

Connection between the systems of teaching geography and mathematics. Geog. v shkole 25 no.3:50-52 My-Je '62. (MIRA 15:7)

1. 3-ya spetsial'naya shkola Moskvy.
(Geography--Study and teaching)
(Mathematics--Study and teaching)

APRAKSINA, Ye.I.; SHABALIN, Ya.F. (Moskva)

Linking the teaching of mathematics and geography in the 8th grade. Mat. v shkole no.5:44-46 S-O '63. (MIRA 16:11)

ACCESSION NR: AP4043649 S/0056/64/047/002/0708/0714

AUTHORS: Nikitin, Yu. P.; Shebalin, Ye. P.

TITLE: Production of pion pairs by high-energy neutrinos on nuclei

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 708-714

TOPIC TAGS: neutrino, pion, momentum transfer, Coulomb repulsion force, diffraction analysis

ABSTRACT: Although reactions of the type $\nu + A \to \mu^- + \pi^+ + \pi^0 + A$ involve strong interacting particles (pions and the nucleus), for which there is no theory at present, it is shown that the cross sections of such reactions at low momentum transfers can be obtained on the basis of the Coulomb and diffraction mechanisms for the production of pion pairs. It is shown that the diffraction mechanism dominates in the neutrino energy region $E \leq 60$ BeV, and the Coulomb mechanism is almost always weaker than the diffraction mechanism ex-

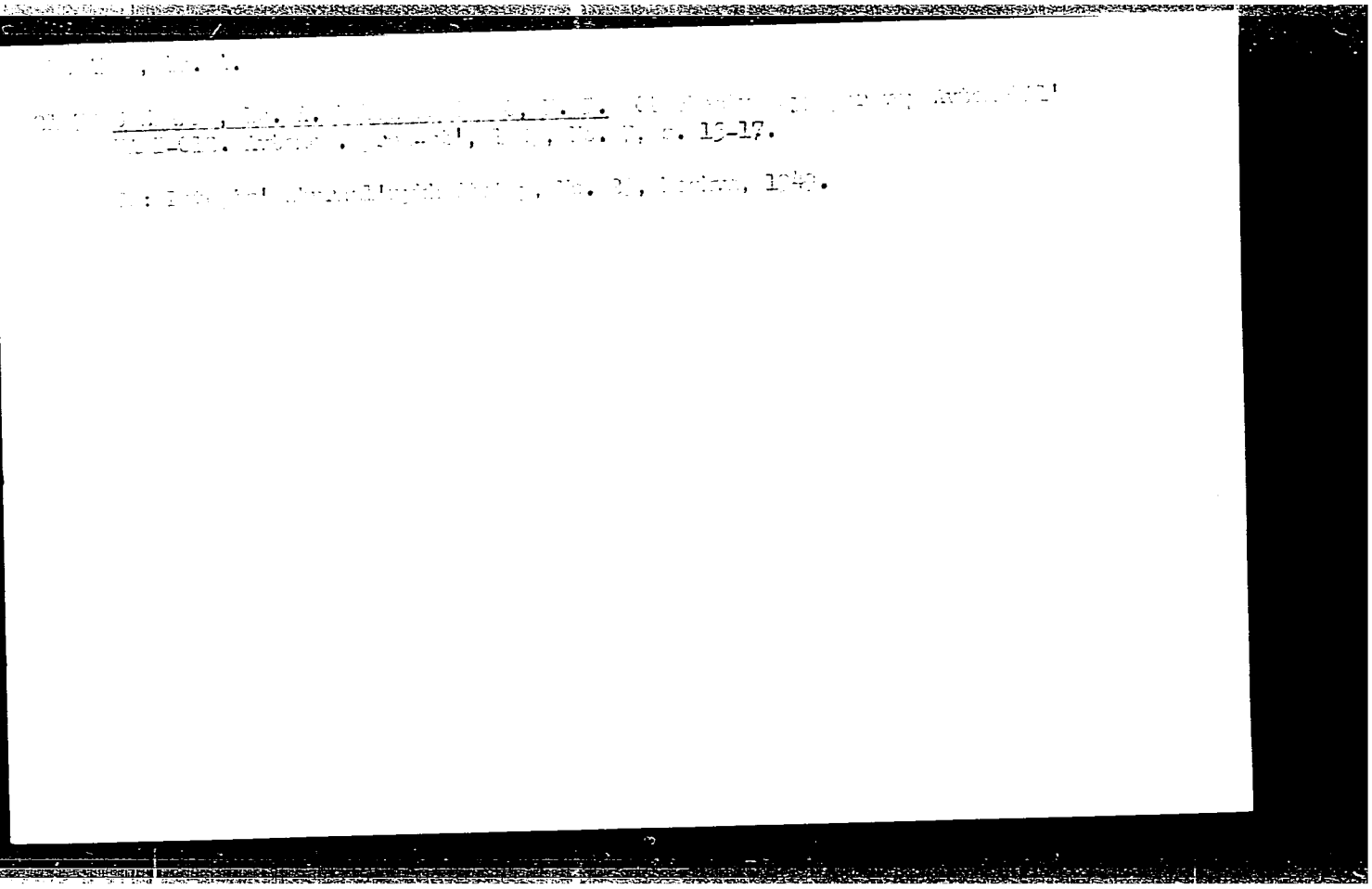
ACCESSION NR: AP4043649

cept at very low momentum transfers. Comparison of the theoretical results with experiment makes it possible in principle to obtain information on the cross sections of the processes $\nu + \pi^- \rightarrow \mu^- + \pi^0$ and $\gamma + \nu \rightarrow \mu^- + \pi^+ + \pi^0$. "The authors thank L. B. Okun' for reading the manuscript and making several critical remarks. Orig. art. has: 12 formulas, 2 figures and 2 tables.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GK IAE SSSR (Institute of Theoretical and Experimental Physics, GK IAE SSSR); Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering Physics Institute)

SUBMITTED: 03Mar64 ENCL: 00

SUB CODE: NP NR REF SOV: 008 OTHER: 004



1. SHAT'IN, Yu, A., Eng.
2. USSR (600)
4. Automobiles, Steam
7. Testing the NAMI-012 steam automobile. Les. prom. 12. no. 11. 1953.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SHEBALIN, Yu.A., inzhener; SHLYKOV, Yu.P., kandidat tekhnicheskikh nauk.

Problems of designing steam power installations of small capacity.
Teploenergetika 4 no.3:37-41 Mr '57. (MLRA 10:3)

1. Nauchno-issledobatel'skiy abtomobil'nyy i abtomotornyy institut.
(Steam power plants)

SHEBALIN, Yu. A.

KOMOV, S.I., inzhener; SHEBALIN, Yu.A.

Some problems in the mechanization of lumbering operations. Mekh. trud. rab. 11 no.4:15-18 Ap '57. (MLRA 10:6)
(Lumbering machinery)

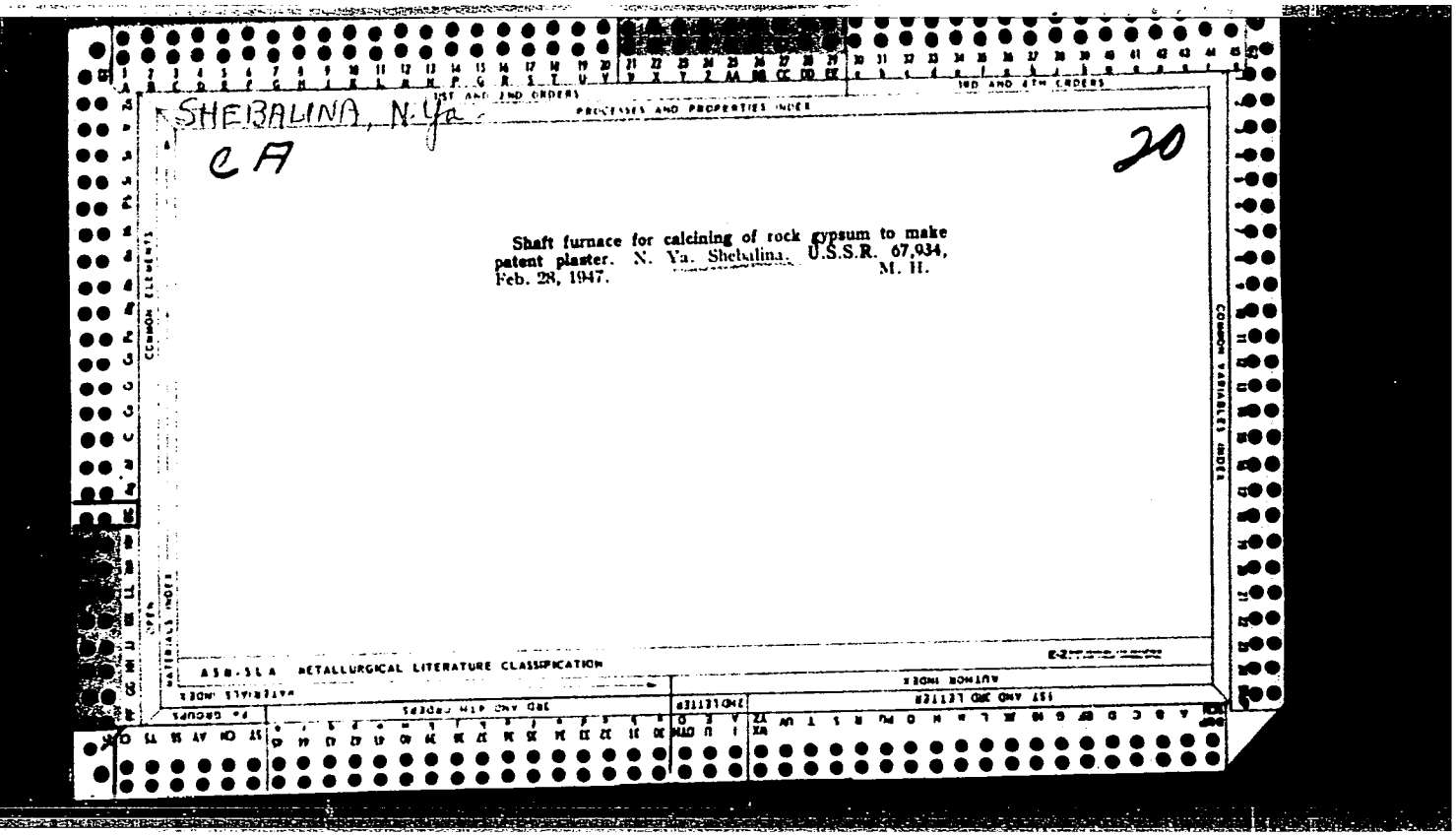
SHEBALINA, M.A.; SOKOLOVA, O.I.

[How to get high yields of root crops] Kak poluchit' vysokii urozhai kormovykh korneplodov. Leningrad, 1955. 50 p. (MIRA 13:4)

(Root crops)

SHEBALINA, M.A., kand.sel'skokhozyaystvennykh nauk; LARICHEVA, M.D., kand.sel'skokhozyaystvennykh nauk

"Beets" by V.T. Krasochkin. Reviewed by M. A. Shebalina and M. D. Laricheva. Zemledelie 23 no.11:92-93 N '61. (MIRA 14:12)
(Beets) (Krasochkin, V. T.)



SHEBALINA, N. Ya.

CA

20

Shaft furnace for calcining of rock gypsum to make patent plaster. N. Ya. Shebalina. U.S.S.R. 67,934, Feb. 28, 1947. M. H.

L 53032-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AT5010208 UR/3043/65/000/003/0275/0280

15
14
B+1

AUTHOR: Gorbunov, A. D.; Shebalina, O. P.

TITLE: Predictive-corrective methods with optimal correction formulas

SOURCE: Moscow. Universitet. Vychislitel'nyy tsentr. Sbornik rabot, no. 3, 1965. Vychislitel'nyye metody i programmirovaniye (Computing methods and programming), 275-280

16

TOPIC TAGS: Cauchy problem, partial differential equation, approximate method, difference method, predictive corrective method, optimal correction

ABSTRACT: The authors consider some predictive-corrective methods, in which the prediction is based on the Adams explicit formula of order n, and consequently of degree n. The correction is applied by means of the Adams implicit formula

$$\sum_{l=0}^{n} a_l y_{k+l} = h \sum_{l=0}^{n} b_l f(x_{k+l}, y_{k+l}), \qquad (1)$$

where y_k -- approximate solution of the Cauchy problem in question, f -- right side

Card 1/2

L 53032-65

ACCESSION NR: AT5010208

of the equation, and a_j and b_j are real numbers chosen such as to optimize Eq. (1) in some sense. In this article optimal correction formulas of order $n = 4$ and 6 are constructed and the coefficients a_j and b_j are determined. The results show that the greatest probability of obtaining an optimal correction formula is obtained by using for the complex argument of the root of the characteristic equation a value $\nu_1 = \pi - 0.785$ radians. It was found during the course of computations that the parameter ν_1 has threshold values of $\pi - 0.0000005$ at $n = 6$ and $\pi - 0.000005$ at $n = 4$. Orig. art. has: 1 figure, 9 formulas, and 1 table.

ASSOCIATION: Vychislitel'nyy tsentr Moskovskogo universiteta (Computation Center, Moscow University)

SUBMITTED: 00 ENCL: 00 SUB CODE: MA

NR REF SOV: 002 OTHER: 001

BAB

Card 2/2

SHCHERBOV, D. P.; KOLMOGOROVA, V. V Prinimala uchastiye:
SHEBALINA, V. I.

Determination of zinc in iron minerals with 8-(p-toluenesulfonylamino)-quinoline. Metod. anal. khim.reak. i prepar.no. 4:125-128 '62. (MIRA 17:5)

1. Kazakhskiy institut mineral'nogo syr'ya (KazIMS).

BOYEVA, Ye.M., kand. med. nauk; MAL'TSINA, V.S.; RAYT, M.L.; FABRICHNAYA, V.A.; SHEBALKINA, T.P.

Experience in the use of acupuncture in vasomotor rhinitis. Vest. oto-rin. 25 no.2:23-27 Mr-Ap '63. (MIRA 17:1)

1. Iz polikliniki po lecheniyu passtroystv slukha i rechi i laboratorii reflektornoy terapii (nauchnyy rukovoditel' - prof. G.N. Kassil') AMN SSSR, Moskva.

BLYUM, I.A.; SOLOV'YAN, I.T.; SHEBALKOVA, G.N.

Arylmethane dyes in inorganic analysis (determination of Sb, Ti, and In). Zav.lab. 27 no.8:950-956 '61. (MIRA 14:7)

1. Kazakhskiy institut mineral'nogo syr'ya i TSentral'naya laboratoriya Yuzhno-Kazakhstanskogo geologicheskogo upravleniya. (Antimony--Analysis) (Titanium--Analysis) (Indium--Analysis)

SHEBALOV, A., prepodavatel'

Training of independence. Prof.-tekh.obr. 19 no.10:12 O '62. (MIRA 15:11)

1. Stroitel'noye uchilishche No.12, Novosibirsk.
(Building trades--Study and teaching)

BORTAKOVA, L.V., kand. tekhn. nauk; MIROSHNICHENKO, I.F., kand. tekhn. nauk; SHEBALOV, A.I., kand. tekhn. nauk; MALOVA, V.F.

Improving the propulsive qualities of a ship by an efficient reduction of wave resistance. Trudy TSNIIMF 54:54-63 '64 (MIRA 18:1)

Efficient design of stern lines for unusual ships. Ibid.:64-71

USSR/Forestry - Forest Economy. J-3

Abs Jour : Referat Zhur - Biologiya, No 16, 25 Aug 1957, 69094

Author : Shebalov, A.M.
Inst :
Title : Snow Accumulation in Water-Preserving Protective Pine Forests in the Chusova River Basin.

Orig Pub : Sb. tr. po les. khoz-vu. Yraleskiy lesotekhn. in-t, 1956, No 3, 65-69

Abstract : The study of peculiarities of forest preservation, which determine in large degree the manner of felling, were carried out in pine plantings of Verkhne-Ugaleisky forestry, province of Chelyabinsk, Polevsky and Uralsky forestry, province of Sverdkovsk. The maximum reserves of snow are observed in ripened deciduous plantings and small forest glades, then in young growth of all types and on glades and in pine plantings. To increase the water-preserving functions of forests it is necessary to create conditions

Card 1/2 - 23 -

USSR/Forestry - Forest Economy.

Abs Jour : Referat Zhur - Biologiya, No 16, 25 Aug 1957, 69094

which aid intense snow accumulation. It is recommended in felling of plots in pure and mixed pine plantings that the corridor principle be applied (width of corridor 2 m). In very young and middle aged ripened pine plantings in felling of plots it is expedient to conserve deciduous species in the composition (birch up to 0.2 - 0.3); in overaged pine plantings group selective fellings are the most acceptable. In forestation of forest-free areas mixed plantings of pine and deciduous trees are recommended.

K

USSR / Forestry. Forest Management.

Abs Jour: Ref Zhur-Biol., No 7, 1958, 29555.

Author : Shebalov, A. M.
Inst : Ural Technical Forestry Institute.
Title : Felling for Forest Renewal in the Pine Woods of the Ural Experimental Training Forest. (Lesovosstanovitel'nyye rubki v sosnovykh lesakh Ural'skogo uchebno-opytnogo leskhoza).

Orig Pub: Sb tr. po lesn. kh-vu. Ural'skiy lesotekhn. in-t, 1956, vyp. 4, 73-75.

Abstract: The necessity of applying felling for forest renewal in the forests of the Ural forestry is stipulated by the existence of overmature pine plantations. It has been established by an investigation of the process of natural renewal that positive results are had by apply-

Card 1/2

SYNELOV, V.I., Cand Agr Sci -- (diss) "Natural renewal and forest restoration felling in pine plantings of the Chusovaya River basin in the Central Ural zone." Sverdlovsk, 1959. 23 pp (Min of Higher Education USSR. Ural Forest-Engineering Inst). 150 copies (KL,37-59, 110)

VOYTKUNSKIY, Ya.I., kandidat tekhnicheskikh nauk; SHEBALOV, A.N., inzhener.

Characteristics of rolling in river vessels. Trudy VNITOSS 6 no.1:59-63 '53. (MLRA 9:11)

(Inland navigation) (Stability of ships)

SOV/124-58-10-11185

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 69 (USSR)

AUTHOR: Shebalov, A. N.

TITLE: The Steady Motion Athwart of a Ship Subject to Horizontal Force (Ustanovivsheyesya dvizheniye sudna lagom pod deystviyem gorizontal'noy sily)

PERIODICAL: Tr. Leningr. korablestroit. in-ta, 1954, Nr 13, pp 71-78

ABSTRACT: Continuation of an earlier paper by the same author (Tr. Leningr. korablestroit. in-ta, 1954, Nr 13, pp 61-69; RZhMekh, 1956, Nr 3, abstract 1506). The motion of a ship with a constant angle of heel due to force of wind pressure is investigated. By drawing up differential equations for the motion of the ship and solving them a formula is obtained for determining the angle of heel. One of the terms entering the formulas is the distance between the center of gravity of the ship and the point of application of the ship's resistance force during motion athwart. This distance was determined by conducting a series of tests in the theoretical ship-design laboratory im. A. N. Krylov. Tests were conducted on six schematic models and four river-craft models. As the result of these tests

Card 1/2

The Steady Motion Athwart of a Ship Subject to Horizontal Force

curves were obtained representing the variation in position of the point of application of the hydrodynamic forces of resistance for different beam-draft ratios in relation to the speed of the model and for different "coefficients of fullness" in relation to the relative speed of the model. Test results on river craft models have shown that with an increase in the beam-draft ratio the line of action of the hydrodynamic forces of resistance falls considerably lower than the base line while it has been customary in calculations to position this point of application on the half way level of the mean draft. For verifying the formulas obtained a numerical sample calculation for two of the models has been performed, and satisfactory results were obtained.

Ye. V Sukacheva

Card 2/2

SOV/124-58-3-2937

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 56 (USSR)

AUTHOR: Shebalov, A. N.

TITLE: On the Reciprocal Action Between a Ship's Propulsor Unit and a Slender Hull in Motion Astern in an Infinite Ideal Fluid (O vzaimodeystvii dvizhitelya s tonkim korpusom sudna pri zadnem khode v bezgranichnoy ideal'noy zhidkosti)

PERIODICAL: Tr. Leningr. korablestroit. in-ta, 1954, Nr 14, pp 112-117

ABSTRACT: The paper examines the steady-state motion of a vessel with a propulsor unit during motion astern in an infinite ideal fluid. The action of the propulsor is replaced by the action of a system of sinks uniformly distributed over the disc area of the propulsor. The action of the vessel is replaced by a continuous distribution of sources over the surface of the vessel having an intensity γ. In motion astern the vessel is exposed to the slipstream produced by the propulsor. In view of this, one more additional velocity potential is introduced. The author demonstrates that the problem may be reduced to an integral equation for the determination of the intensity γ of the sources and to the general concept of a suction coefficient.

Card 1/1

M. D. Khaskind

SOV/124-58-3-2926

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 54 (USSR)

AUTHOR: Shebalov, A. N.

TITLE: An Approximate Method for the Determination of the Location of the Hydrodynamic Center of Pressure Forces During the Athwart Motion of a Ship (Priblizhennyy sposob opredeleniya polozheniya tsentra davleniya gidrodinamicheskikh sil pri dvizhenii sudna lagom)

PERIODICAL: Tr. Leningr. korablestroit. in-ta, 1956, Nr 18, pp 105-110

ABSTRACT: The (plane) problem is examined with regard to the motion of a cylindrical body of infinite length with an arbitrary cross section of its contour C in a direction perpendicular to the generatrix of the cylinder. An expression is written for the determination of the point of intersection with the y axis (vertical axis of the coordinates) of the resultant of the pressure forces acting upon the contour C. Therein the moment M_o of the forces acting upon the contour is determined on the assumption that the pressure distribution curve (obtained, for example, by an experimental method) over the contour is known. As an example an elliptical contour is studied; for this instance the

Card 1/2

SOV/124-58-3-2926

An Approximate Method for the Determination of the Location (cont.)

general expressions for the moment M_o of the pressure forces and the ordinate y at the point of intersection of the resultant sum of the forces of the stress with the y axis are evolved to the state of calculation formulae. On the basis of the method of plane sections, the obtained formulae are extended to include three-dimensional bodies, i.e., ships with elliptically-shaped web frames. A comparison made of the calculated and the experimental values of y/T (where T is the ship's draft) for a model of a river boat proved, according to the author's assertion, that the formula obtained can be applied for approximate calculations of the point of application of the hydrodynamic pressure forces during a ship's athwart motion.

A. A. Kostyukov

Card 2/2

SHEBALOV, A.N. (Leningrad)

Wave resistance and lifting capacity of a plane contour of arbitrary shape in unsteady motion below a free surface. Prikl. mat. i mekh. 26 no.6:1104-1111 N-D '62. (MIRA 16:1)
(Hydrodynamics)

S/179/62/000/002/006/012
E031/E435

10.1200

AUTHOR: Shebalov, A.N. (Leningrad)

TITLE: The forces acting on a body of arbitrary shape in unsteady motion under a free surface

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.2, 1962, 38-47

TEXT: A body of arbitrary shape is assumed to be moving in a straight line at constant depth under the surface of an unbounded fluid, the waves at the surface being small. It is assumed that the fluid motion can be described by a velocity potential and that the body is initially at rest. Proof of the existence and uniqueness of the solution of the equations is deferred to a later paper. The potential function is taken as the sum of a function which is harmonic throughout the whole space exterior to a surface S_1 enclosing the body and a function which is harmonic inside a surface S_∞ enclosing S_1. It is shown that if in the expressions for the forces the velocity of the body does not depend on the time and the upper limit of integration is taken

Card 1/2

The forces acting on a body ...

as $t = \infty$, the expressions coincide with those obtained by N.Ye.Kochin for the steady motion of a body of arbitrary shape under a free surface. The general equations are applied to derive the lift on a sphere in motion under a free surface. Finally, the wave drag on a "Mitchell" type vessel is calculated. There are 2 figures.

SUBMITTED: August 24, 1961

Card 2/2

BOGDANOVA, Z.V., kand.tekhn.nauk; MAKSIMENKO, I.P., kand.tekhn.nauk; SHEBALOV, A.N., kand.tekhn.nauk; GOLUBEV, Yu.I.; MALOVA, V.F.

Results of investigating the propulsive speed and seaworthiness of ships with bulging outlines. Trudy TSNIIMF no.45:27-37 '63. (MIRA 16:9)

ACCESSION NR: AP4018436 S/0179/64/000/001/0150/0154

AUTHOR: Shebalov, A. N. (Leningrad)

TITLE: Wave resistance and lift of a body of arbitrary shape during unsteady motion in a liquid of limited depth

SOURCE: AN SSSR. Izv. Otd. tekh. nauk. Mekhanika i mashinostroyeniye, no. 1, 1964, 150-154

TOPIC TAGS: unsteady motion, fluid dynamics, fluid mechanics, hydrodynamics, flow, wave resistance, lift

ABSTRACT: In this article, Kochin's method (See Kochin, N. Ye., O volnovom soprotivlenii pogruzhennykh v zhidkost' tel., Sobr. soch., t. 2, Izd. AN SSSR, 1949) is used in an investigation of forces of a wavelike nature during unsteady motion of a body of arbitrary shape beneath the free surface of a liquid limited in depth. The motion is considered potential, waves arising on the free surface are considered small. A Laplace equation is given for determination of the velocity potential of absolute motion of a heavy non-compressed liquid. Boundary equations are given for the free surface, the bottom of the reservoir, the surface of the body and infinity. Orig. art. has: 1 figure, 35 formulas.

Card 1/2

ACCESSION NR: AP4018436

ASSOCIATION: none

SUBMITTED: 06Aug62 DATE ACQ: 23Mar64 ENCL: 00

SUB CODE: AI NO REF SOV: 003 OTHER: 002

Card 2/2

GEL'TMAN, A.E., kand.tekhn.nauk; KORNEYEV, M.I., kand.tekhn.nauk;
SHEBALOV, V.K., inzhener.

Using gas from underground gasification in steam-gas equipment.
Elek.sta. 28 no.9:35-39 S '57. (MIRA 10:11)
(Steam power plants)

SHEBALOV, V.K., inzh.; SHPEKTOROVA, T.Ya., inzh.

A steam and gas system with a high-pressure steam superheater.
Energomashinostroenie 8 no.11:3-6 N '62. (MIRA 16:1)
(Electric power plants)

SHEBALOV, V.K.; BOYKO, V.I.; VARVARSKIY, V.S.

First Russian steam and gas turbine system. Energ. i elektrotekh. prom. no.1:42-44 Ja-Mr '63. (MIRA 16:5)
(Electric power plants) (Turbines)

AP6022268 (N) SOURCE CODE: UR/0114/65/000/011/0017/0020

AUTHOR: Shebalova, Z. A. (Engineer)

44
B

ORG: none

TITLE: Aerodynamics of single-register combustion chambers under isothermal conditions

SOURCE: Energomashinostroyeniye, no. 11, 1965, 17-20

TOPIC TAGS: combustion chamber test, isothermal flow, experiment aerodynamics, flow regulation

ABSTRACT: Research on the aerodynamics of stationary damper type combustion chambers with slits for inlet of cooling air was recently conducted at the Central Scientific Research Design and Planning Institute of Boilers and Turbines im. I. I. Polzunov. The author gives data on the effect which the influx of secondary air has on flow structure in the combustion chamber with a change in the angle at which the vanes in the register are set and a variation in the ratio between the diameters of the register and combustion chamber. Two experimental chambers were studied. One of these had a flame tube 270 mm in diameter, a transfer cone with an apex angle of 70°, a 3-step liner with 74 holes 5 mm in diameter on each step and a mixer with two rows of seven holes 54 mm in diameter. The second unit had a flame tube 364 mm in diameter consist-

Card 1/2 UDC: 621.43.056:533.6.001.5

L 29551-66

ACC NR: AP6012268

ing of a transfer cone with a 70° angle and 3 shells with 4 mm slits at the joints. Three registers were studied with vane angles of 28, 45 and 65° and airflow ratios varying from 0 to 3.7. Diagrams are given showing the fields of axial and rotational components of velocity in the chambers. It is found that the maximum velocity moves toward the periphery when the mass of the cooling air is increased without changing the quantity of primary air. An influx of secondary air increases the intensity of circulation in the backflow zone. The drag coefficient of the register and the chamber increases with an increase in the angle at which the vanes are set. The drag coefficient of a register in the large chamber was lower than the coefficient for this same register in the small combustion chamber. A theoretical explanation is given for this difference. The quantitative relationships found in this work show that the flow structure in combustion chambers depends on the degree of twisting in the primary air flow, the ratio between the register and chamber diameters, and the ratio between the kinetic energies of the air streams entering the chamber through the register and the slits. Orig. art. has: 6 figures.

SUB CODE: 21/ ORIG REF: 002

Card 2/2

SHEBANIN, I., aspirant

Good method for improving meadows. Nauka i pered. op. v sel'khoz 9 no.10:33 O '59 (MIRA 13:3)

1. Institut kormov imeni V.T. Vil'yamsa.
(Pastures and meadows)

1. SHEBANIN, P.
2. USSR (600)
4. Butter
7. Studying the gas phase of butter. Mol. prom. 13 no. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SHEBANIN, P.

Transformation of the gas phase in salted sour-cream butter during its storage. Molochnaya Prom. 14, No.8, 36-7 '53. (MLRA 6:8)
(CA 47 no.22:12679 '53)

1. S.M.Kirov Agr. Inst., Omsk.

SHEBANIN, P.V.

Role of carotene in autoxidation of butterfat. Prikl. biokhim. i mikrobiol. 1 no.4:391-395 Jl-Ag '65. (MIRA 18:11)

1. Kafedra biokhimii i khimii moloka Omskogo sel'skokhozyaystvennogo instituta imeni S.M.Kirova.

RUCHKIN, V.N., prof.; SHEBANIN, P.V., kand.biolog.nauk

Serious errors in a textbook ("Handling and processing agricultural products" by V.S. Shmal'ko. Reviewed by V.N. Ruchkin, P.V. Shebanin). (MIRA 12:11)
Zemledelie 6 no.8:91-93 Ag '58.
(Farm produce) (Shmal'ko, V.S.)

YEREMEYEV, G.P.; SHEBANIN, P.V.

Biochemical characteristics of wild radish (Raphanus raphanistroides). Biokhim.pl.i ovoshch. no.6:132-136 '61. (MIRA 14:6)

1. Omskiy sel'skokhozyaystvennyy institut imeni S.M.Kirova.
(Omsk--Radishes) (Plants--Chemical analysis)

SHEBANIV, Ivan Vasil'yevich; SELEZNEV, N.G., red.; PULIN, L.I., tekhn. red.

[What we gain from green fallows] Chto daiut zaniatye pary. Tula, Tul'skoe knizhnoe izd-vo, 1960. 21 p. (MIRA 14:7)
(Fallowing)

SHIPANOV, A. A.

"On the Matching of Electrical and Optical Axes of an SON /Gun-Sighting Installations/ Antenna," pp 51-54, ill.

Abst: The problems of aligning gun-sighting installations by angular coordinates are examined. Recommendations are given for eliminating errors in the coordination of electrical and optical axes of an antenna.

SOURCE: Art. Zhurnal (Artillery Journal), 1956, XI, No 10

Sum 1854

SHEBANOV, A.F.

"The experience of the higher educational institutations in the USSR and RSFSR national republics which has no educational facilites before the Revolution."

Report submitted to the Conf. on the Application of Science and Technology for the Benefit of the Less Developed Areas.
Geneva, Switzerland 4-20 February 1963